Transhumanism, Metaphysics, and the Posthuman God

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After describing Heidegger's critique of metaphysics as ontotheology, I unpack the metaphysical assumptions of several transhumanist philosophers. I claim that they deploy an ontology of power and that they also deploy a kind of theology, as Heidegger meant it. I also describe the way in which this metaphysics begets its own politics and ethics. In order to transcend the human condition, they must transgress the human.

Keywords: *Heidegger, metaphysics, ontology, ontotheology, technology, theology, transhumanism*

Everywhere we remain unfree and chained to technology, whether we passionately affirm or deny it.

—Martin Heidegger

I. INTRODUCTION

Transhumanism is an intellectual and cultural movement, whose proponents declare themselves to be heirs of humanism and Enlightenment philosophy (Bostrom, 2005a, 203). Nick Bostrom defines transhumanism as:

1) The intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially by developing and making widely available technologies to eliminate aging and to greatly enhance human intellectual, physical, and psychological capacities.

2) The study of the ramifications, promises, and potential dangers of technologies that will enable us to overcome fundamental human limitations, and the related study of the ethical matters involved in developing and using such technologies (Bostrom, 2003, 2).

The story goes then that transhumanism is a self-correcting philosophy aimed at improving the human species and is also able to control or manage the potential risks and to maximize the benefits of enhancement technologies.

A transhumanist sees the current state of the human in an evolutionary transition, on a transitory journey from ape to human to posthuman, and thus its philosophy is called transhumanism. The goal of transhumanism, then, is the posthuman. The posthuman is a future being—a person—who constructs herself out of various technologies. The posthuman, although a speculative projection into the future, will be very different than current humans:

[Transhumanists] yearn to reach intellectual heights as far above any current human genius as humans are above other primates; to be resistant to disease and impervious to aging; to have unlimited youth and vigor; to exercise control over their own desires, moods, and mental states; to be able to avoid feeling tired, hateful, or irritated about petty things; to have an increased capacity for pleasure, love, artistic appreciation, and serenity; to experience novel states of consciousness that current human brains cannot access (Bostrom, 2003, 5).

The posthuman being may not look human at all and could be "completely synthetic artificial intelligences" or could be "the result of many smaller but cumulatively profound augmentations of a biological human" (Bostrom, 2003, 5–6). Thus, the biological human may require complete redesign of the human organism through "genetic engineering, psychopharmacology, anti-aging therapies, neural interfaces, advanced information management tools, memory enhancing drugs, wearable computers, and cognitive techniques" (Bostrom, 2003, 6). Posthumans will not be limited by the frailties of human bodies. They "may have experiences and concerns that we cannot fathom, thoughts that cannot fit into the three-pound lumps of neural tissue that we use for thinking" (Bostrom, 2003, 6). Some may even abandon the human body altogether and "live as information patterns on vast super-fast computer networks" (Bostrom, 2003, 6). The posthuman will choose the kind of matter that it wishes to use, maximizing its efficiency for the task at hand.

Thus, the transhumanist is a technological optimist, who seeks to transform the human by overcoming merely human limitations. As such, for those of us who engage transhumanist philosophers, the pitfall is to take too seriously the claims made by transhumanists, for these claims can seem Polly-Annish. Yet, as best I can tell, those who take on the manacle of transhumanism seem very serious, earnest, and hopeful about the posthuman future. They operate in the spirit of Bacon's statement that the purpose of knowledge (and its technological fruits) is to relieve the human estate (Bacon, 2000, 60 and 221/Book I, aphorism LXXIII and Book II, Aphorism, LII). Yet, transhumanist philosophies seek to transcend human frailties, not by relieving the

human condition of its frailties, but by relieving us of the human condition itself. It takes the human as its origin and the posthuman as its telos—even while it is an ill-defined telos. And its rationality is the logic of technology, to move us from human frailty into the realm of posthuman goods. Its logic however is not new. It is as old as the Enlightenment, and it deploys the metaphysics of efficient causation to bring into Being, a new being.

As noted by Bostrom, to represent those who oppose one's view of the world is to risk caricature (Bostrom, 2005a, 203–4).[1] So, in what follows, I shall have to be on guard against caricature. In order to avoid presenting transhumanist thinking as a caricature, I shall only engage a few writings from Bostrom, because he attempts to engage, in good faith, those who would see only the risk of enhancement technologies. In addition, although other transhumanists help to fill out the philosophical stance, to go more deeply into these other accounts would require more space than this short article would allow. Finally, in an attempt to avoid caricature, I shall also examine a writer who refuses the moniker of transhumanism, namely John Harris, even while his philosophical stance is compatible with the kinds of enhancement that transhumanists would deploy. I have chosen to examine Harris because the analysis here offered speaks not only to transhumanists but also to the philosophical spirit that animates our current research and the hope for our biotechnological future. Moreover, I simply cannot be exhaustive by examining the writings of other transhumanist philosophers like Young (2005) or Kurzweil (2006) or de Grey and Rae (2008), only to name a few.

In this essay, I shall attempt to evaluate transhumanism with the help of Martin Heidegger's critiques of metaphysics and technology and demonstrate that transhumanism instantiates a metaphysics as ontotheology. Heidegger's critique of Western metaphysics is that there are always two anchor points that seek to secure the ground of being: ontology and theology (where theology here means the theology of the philosophers). In short, I shall claim that transhumanism enacts a posthuman god, and that, as such, it deploys not only its metaphysics, qua ontotheology, but also its own ethics and politics. In other words, the transhumanists are merely repeating the old dogmas of the Enlightenment.

II. HEIDEGGER'S CRITIQUES

Since Martin Heidegger did not treat his critiques of humanism and technology with the same systematicity as he did metaphysics in *Sein und Zeit* (1996)—and since his work on metaphysics continued to develop well beyond its publication—I shall first have to offer an interpretation of Heidegger's early and later work. Given the complexity of interpreting Heidegger, we would do well to take this journey with the assistance of one of the clearest interpreters of Heidegger, Iain Thompson. I shall briefly unpack

what I consider to be salient features of Heidegger's work as it relates to transhumanism. In his book *Heidegger on Ontotheology* (2005), Thompson admirably distills Heidegger's critiques and deconstructions of Western metaphysics and then shows how these deconstructions are related to Heidegger's later work on technology. I am dependent on Thompson here.

Oversimplifying Heidegger's position, metaphysics determines everything. Thompson, in interpreting Heidegger, states:

By codifying and disseminating an understanding of what things *are*, metaphysics provides each historical "epoch" of intelligibility with its ontological bedrock. And by furnishing an account of the ultimate source from which entities issue, metaphysics supplies intelligibility with a kind of foundational justification that . . . Heidegger characterizes as "theological" (Thompson, 2005, 8).

Thompson's point is that Heidegger understands the history of the West as a history of epochal shifts that come to shape the way things are thought to be, and how things appear for us. The history of the West, claims Heidegger, is a series of bifurcating understandings between "Entities as such" and "Entities as a whole," or put differently, between "whatness" and "thatness," or put differently again, between "essentia" and "existentia" (Thompson, 2005, 16). For our purposes of examining transhumanism (or perhaps better, transhumanisms), it is important to understand that the uses of technology already assume a kind of belief about what things are. Yet, Heidegger's critique is deeper than saying that our uses of technology are animated by our metaphysical understandings about what things are.

Heidegger thinks that, in the history of asking the question of what things *are*, we are asking two related questions: one is a question about the essence of the thing and the other is about its existence. Thus, for Heidegger the core content of metaphysics is its understanding of the being of entities. The question is ambiguous; the two-fold nature of the question results in "two historically intertwined stalks" (Thompson, 2005, 13). These two stalks we call ontology and theology. Thus, the history of metaphysics, for Heidegger, is a history of onto-theology:

"What is an entity?" can be heard as asking about either *what* makes an entity an entity (and thus as inquiring into the "essence" or "whatness" of entities as such) or about the way *that* an entity is an entity (and so searching for the "existence" or "thatness" of entities as a whole) (Thompson, 2005, 12).

Ontology searches for *whatness*, essence; theology searches for *thatness*, existence.

For the sake of clarity, it will be helpful to further explicate this distinction. Ontology names that branch of metaphysics that concerns itself with the being of entities. It "looks for what component element all entities share in common" (Thompson, 2005, 14). In other words, ontology looks for the being of entities "beyond which no more basic entity can be 'discovered'"

(Thompson, 2005, 14). Metaphysics is ontology, when it "thinks of beings with an eye for the ground that is common to all beings as such" (Heidegger, 1969, 70/139).[2] Thus, ontology names the *ousia*, the proto-substance; yet, ontology takes on different "historical character[s]: *Phusis, Logos, Hen, Idea, Energeia*, Substantiality, Objectivity, Subjectivity, Will, Will to Power, Will to Will" (Heidegger, 1969, 66). Thus, ontology is named differently depending upon the historical epoch within which it held dominance.

Heidegger names the other stalk of metaphysics as theology, which should not be understood in a strictly religious sense, but in terms of the god of the philosophers. What an entity *is*, asks about its existence, namely *that* it *is*. Theology understood philosophically asks two subsidiary questions about the being of things: "'What is that which is?' asks both (1) *Which* entity is in the supreme, paradigmatic, or exemplary sense? and (2) In what sense *is* it?" (Thompson, 2005, 14–15). Heidegger names these two questions (1) the question of God and (2) the question of the divine, respectively (Thompson, 2005, 15). The first question is about the highest entity, and the second is a question about the kind of being that might be the supreme being. So, metaphysics thinks theologically when it "thinks of the totality of entities as such . . . with regard to the supreme, all-founding entity" (Thompson, 2005, 15).[3] Metaphysics as theology is concerned with the *causa sui*, the self-caused cause, the unmoved mover, the beingest of beings (Heidegger, 1969, 60; Thompson, 2005, 15).

Heidegger's interpretation of the recent history of metaphysics, went something like this, according to Thompson:

. . . Kant thinks "theologically" when he postulates "the subject of subjectivity as the condition of the possibility of all objectivity," as does Hegel when he determines "the highest entity as the absolute in the sense of unconditioned subjectivity, that is, as outermost conditions on the possibility of intelligibility" (Thompson, 2005, 15–16; quoting Heidegger, 1961a, 208; Heidegger, 1969).

Heidegger goes on to note that even Nietzsche, who is much less concerned with being and much more concerned with becoming, thinks theologically when he "thinks the *existentia* of the totality" by proclaiming the "eternal return of the same"; after all, eternal recurrence is not just "the way that the totality of entities exists . . . but also their *highest* mode of existence (as the closest the endless stream of becoming comes to *being*)" (Thompson, 2005, 16).

Thus, for Heidegger the history of metaphysics is a history of founding ontotheologies, which were unable to secure their own ground. The history of metaphysics, then, is a history of swinging between foundation and abyss, with the overturning of a previous ontotheology by the next ontotheology. In other words, for a time ontotheologies give "a perhaps necessary appearance of ground" (Thompson, 2005, 19).

Nietzsche pulls the rug out from under this drive to provide foundations for essence, on the one hand, and existence, on the other, but the tension between becoming and return is the same sort of tension between ontology and theology. Becoming is essence or ontology; the moment of the return of the same is the highest moment in existence. Nietzsche proclaims that there are no foundations for being, just an unbroken succession of one metaphysically grounded epoch arising from the ashes of the metaphysics that preceded it (Thompson, 2005, 22). In other words, there is the eternal circulation of power, with no culmination in being, just eternal becoming. Much of the latter Heidegger is an attempt to avoid Nietzschean metaphysical nihilism; Heidegger's success in so doing is not the subject of this essay. Instead, we shall focus on Heidegger's diagnosis.

III. POWER BIOLOGY, POWER ONTOLOGY

Rather than static beings or static Being about which the West seems most concerned, Nietzsche points to the Dionysian element that has been suppressed in the West (Nietzsche, 1999, 1–116).[4] Dionysius, as the god of Chaos, represents the creative and playful force, the force that is most free to become what it will. Biologically speaking, that force or power is both similar to the Darwinian notion of selection, and also different from it, as Nietzsche wishes to distance himself from Darwin (Richardson, 2004, 11–65).[5] John Richardson calls this circulation of power Nietzsche's "power ontology" and "power biology" (Richardson, 1996; Richardson, 2004, 12–13). These powers or forces are the will to power that repeatedly brings forth new life and new possibilities; but "will" must be understood differently from agency. The will to power as creative and evolutionary force has no robust *telos* toward which it is aimed (Richardson, 2004, 26–35). "Will to power" is not conscious agency; it has only a hidden cause directed successfully to what is the case in the present. In other words, "entities" are always at a stage of becoming; those entities that "exist" in the present are those that have successfully survived by virtue of the creative forces that sustain them in that momentary state. Thus, Nietzsche's will to power should be thought of as nonmentalist or nonconscious becoming—will without agency.

Our conscious ability to come up with explanations for why living entities, ourselves included, act in certain ways are false stories that cover over the nonconscious will to power[6] (Richardson, 2004, 35). In other words, our history of attributing final causes to the being of entities is in error. Thompson can help to further explicate this point. "[E]ntities *are* only concatenations of forces in the service of will-to-power, a will that strives ultimately only for its own unlimited self-aggrandizing increase . . ."[7] (Thompson, 2005, 22). These concatenations of energy, these forces coming together and breaking apart,

have "no goal beyond their own self-augmenting increase" (Thompson, 2005, 22). As such, "all entities, ourselves included, are thereby conceived of ultimately only as raw materials, intrinsically meaningless *resources* (*Bestand*) on standby merely to be optimally ordered and efficiently disposed of in an endless and unending spiral of "constant overcoming." (Thompson, 2005, 22) Thus, humans are beings that just happen to be, in this momentary stage of becoming, an evolutionary achievement. This "power ontology" achieves a new stage in becoming in the evolutionary history of human becoming, a moment when a human can turn to order the creative and chaotic forces.

A central tenant of Darwinian evolutionary theory is the belief that through selection, the creative power from whence the origin of species arises eventually gets it right for the set of environmental circumstances within which it finds itself as evidenced by the survival of the organism and its possibility to reproduce. However, this ontological creative force achieves, according to Harris, a new state in human history where evolution is no longer natural selection with starts and stops, but deliberate selection (Harris, 2007, 3). Transitional humans have achieved the point of new possibility:

This new phase of evolution in which Darwinian evolution, by natural selection, will be replaced by a deliberately chosen process of selection, the results of which, instead of having to wait the millions of years over which Darwinian evolutionary change has taken place, will be seen and felt almost immediately. The new process of evolutionary change will replace *natural selection* with *deliberate selection*, *Darwinian evolution* with "*enhancement evolution*"[8] (Harris, 2007, 3–4).

Never mind that Harris misses a key point, namely that in Darwinian becoming something quite different might emerge than what human enhancement of evolution might produce. Still, the point is that rational human will directs evolutionary history. This achievement is mediated through the deployment of technology with all of its attendant powers (Harris, 2007, 8–58). The human will, an evolutionary achievement, turns to order the chaos of creative ontology, and thereby enacts an ordering theology.

This new stage of becoming—a culmination in the series of nondirected creative forces—results in different creative possibilities, according to some recent thinkers (Bostrom, 2005a, 203; Harris, 2007). Earth and its fruits stand ready as a reserve of power (Heidegger, 1977, 18–20) awaiting the next iteration of these creative forces. Yet, for those like Harris and Bostrom, these creative forces—this will to power—turns onto itself in human becoming. Thus, the ontology of thinkers like Harris and Bostrom is a power ontology, where power circulates in the stops and starts of evolutionary biology. The human animal, as a moment of achievement of the natural circulation of power coming into being, harnesses these creative evolutionary forces, highlighting a different force, an ordering force that turns to order the chaotic forces. Rather than the essential force that creates, the essence of all becoming,

the human will seeks to order the creative forces with a greater ordering force. This ordering force of the human will directs the creative forces toward the emergence of the highest being. This ordering force—this human will set to order the powers of creation—is transhumanism's theology. The human will is a product of the creative force of becoming, which turns for the moment to master and control its own becoming.

Here we begin to see both the ontological and the theological positions of transhumanist philosophical stances. On the one hand, we see the creative evolutionary force—ontologically productive, creative power. Evolutionary creative power—or will to evolve (Young, 2005)—seems to be the most basic unit beyond which no more basic unit can be found. With the human will to power, we see the creative force becoming the ordering force, directed toward a new telos, the posthuman, the highest of beings, perhaps even Being itself in the singularity, pure mental power (Kurzweil, 2006).

The transhumanist metaphysical belief is that we human beings are on an evolutionary journey, from human to posthuman; those wise and smart enough to see and understand the transitory nature of human being are thus transitional humans. The philosophy of transhumanism seeks to order evolutionary becoming. This ordering power takes on a theological character in the way that Heidegger means theology. Here, however, the god of these transhumanist philosophers is the god that orders the creative power toward a new being, a new god, that is to say toward the posthuman. Transhumanist philosophies, in my estimation, are the coincidence of eternal and creative forces of becoming just as they turn in the conscious moment toward control, toward mastery. Transhumanism seeks to differently embody the *Übermensch.*

IV. ORDERING TECHNO-LOGIC

The relationship between Heidegger's early work on metaphysics and his later work on technology should by now be somewhat clear in transhumanist philosophy. Technology, as understood by transhumanists, is primarily thought of as a tool, a neutral instrument by which we bring desired effects into being. Humankind produces technology as a means to achieve various ends (Heidegger, 1977, 34), and one merely has to apply the proper ethics and politics to the various means to achieve the ends (Bostrom, 2005a; Harris, 2007). As Heidegger notes, in the history of metaphysics the four Aristotelian causes have been thought of primarily in an instrumental way (Heidegger, 1977, 3–7). Yet in the contemporary epoch, technology has fundamentally shifted our metaphysical thinking. In technology, causation is more fundamentally seen as efficient causation. This shift in emphasis to efficient causation changes the relationship among other causes, such that the *telos* or final cause no longer enters into scientific description, but becomes

a political ideal. *Telei* or final causes are post hoc additions either through the inscription of an individual will or through the addition of a political will or through a balancing of these two wills (Bostrom, 2003, 2005a). I shall turn to this notion of the ethical and the political in a moment, for it is here at the level of the ethical and the political that any real thought is given to technology by the transhumanists, but even here the "ethical" is still thought only in instrumental terms as means. For now, I want to turn to the metaphysically most important aspect of technology, efficient causation.

Heidegger demonstrates how instrumental thinking has shifted significantly when technology comes to deploy the insights of modern physics (Heidegger, 1977, 12–14). In a passage that can be interpreted as a valorization of Greek thinking about *technē*, Heidegger briefly describes the relationship of the four traditional Aristotelian causes, showing that they cohered harmoniously in what he calls an occasioning, a kind of bringing together of causes such that entities appear in the phenomenological sense. The four Aristotelian causes let what is not yet present come into relief, and this, Heidegger concludes is *poiēsis*. For the Greeks, *Phusis* (nature) was the highest form of *poiēsis*; it is the bursting forth or the springing forth of something present to the senses. And Heidegger goes one step further in claiming that *technē*—including the arts of handicraft, the arts of the mind, and the arts of the fine arts—is also a subset of poiesis; they are "something poietic" (Heidegger, 1977, 13).

Greek *technē* then acts to bring forth, without controlling. *Techn* is a kind of midwife that brings forth without coercion; it is the manner in which a craftsman will bring forth something through subtle and delicate work. Technology, here understood as Greek *technē*, "is no mere means. Technology is a way of revealing" (Heidegger, 1977, 12). Yet, Heidegger would claim that for us technology is not a *bringing forth* so much as it is *challenging forth*. For us, technology reveals, but it reveals by challenging and coercing that which is not present to us so that it comes into being for us. One example used by Heidegger is illustrative: the water mill extends the wheel out into the river; the hydroelectric generator damns up the river and the river is literally brought into the machine. For us, then, the earth becomes resource. "[A] tract of land is challenged into the putting out of coal and ore. The earth now reveals itself as a coal mining district, the soil as a mineral deposit" (Heidegger, 1977, 14).

Thus, modern technology is manipulation and manufacturing, but it is never merely the application of physics and chemistry; for medicine, technology is never merely the application of psychoneuropharmacology, or the use of deep nerve stimulators, or in the future, the deployment of nanobots. Technology is instead a stance struck toward the world, a way of challenging the world to produce things for us. Heidegger states:

. . . man's ordering attitude and behavior display themselves first in the rise of modern physics as an exact science. Modern science's way of representing pursues

and entraps nature as a calculable coherence of forces. Modern physics is not experimental physics because it applies apparatus to the questioning of nature. Rather the reverse is true. Because physics, indeed already as pure theory, sets nature up to exhibit itself as a coherence of forces calculable in advance, it therefore orders its experiments precisely for the purpose of asking whether and how nature reports itself when set up in this way (Heidegger, 1977, 21).

The ordering provided by technology, literally the ordering techno-logic, marries together the creative power of evolution with the power of technology to order this "power ontology," to use Richardson's phrase (Richardson, 1996, 2004). Nature becomes what nature is set up to become by the techniques that are applied.

Heidegger claims then that prior to modern physics that entraps nature as the "calculable coherence of forces" (Heidegger, 1977, 21), there is a stance already struck toward the world, a stance that holds sway over nature. He notes that even while technology is chronologically posterior to modern physics, technology is prior to physics in the sense that the holding sway over what presents itself for human reckoning sets nature up in just this way. Catherine Pickstock puts forth a fitting description for this mode of reckoning. Pickstock states: "There arises, therefore, an epistemological circuit whereby knowledge is based entirely on objects, whose 'being' does not exceed the extent to which they are known" (Pickstock, 1998, 63). An act of the mind stabilizes those things of flux and diversity and fixes them so that they can be known and used. In fact, only those useful features of the plenum come into relief as things. "[W]hat is measurable becomes the standard for what is 'knowable', which in turn becomes the standard for what 'is'" (Bishop, 2009, 342).

The challenging forth of technology—the measuring of things—delimits those things that emerge as things to those features of things that are useful. Heidegger names this challenging forth as the *Gestell*, the enframing (Heidegger, 1977, 19–23). The enframing is what allows the objects of technology to emerge as possible objects and tools. Things are raw materials or natural resources, lacking in any inherent value or meaning and only attaining meaning insofar as they can be put to some use by the ordering power. They emerge as things for us only insofar as useful. Thompson states:

For Heidegger, then, Nietzsche's legacy is our nihilistic "cybernetic" epoch of "enframing", which can only enact its own groundless metaphysical presuppositions by increasingly quantifying the qualitative—reducing all intelligibility to that which can be stockpiled as bivalent, programmable "information"[9]—and by leveling down all attempts to justify human meaning to empty optimization imperatives like: "Get the most out of your potential!" (Thompson, 2005, 22).

Very little more could sum up the transhumanist philosophy than "Get the most out of your potential."

Technology is neither the accoutrement of cell phones or computers nor the nanobots, neural networks, and brain-machine interfaces. Nor is

technology the implantable devices designed to maintain or enhance human becoming, human evolution. Nor is technology the drive to some posthuman who more greatly exceeds current humans than we humans exceed apes (Bostrom, 2003). Instead, technology participates in an epistemological circuit; it is a stance struck toward the world. Nature comes to be understood as resource of power because it *is* creative evolutionary force. And in the enframing of technology, nature's creativity comes to be ordered by the force of human willfulness. The ordering power is the theological arm of this metaphysics, and for transhumanism the ordering power is the human ordering, challenging forth to bring into being the posthuman.

The earth, indeed, the whole universe emerges as natural resource, as a thing that can be utilized in order to produce different kinds of power to effect change. Nature stands before us as the reserve of power, power to be harnessed and controlled. Even intelligibility becomes technologized, such that *all* that there *is* loses any meaning in itself and becomes resource standing by awaiting, not the chaotic, creative force, but the calculating force, a force that will come to normalize and control the chaos. For transhumanists, then, humans, as the pinnacle of the creative forces to date, can attenuate their subjectivity to the *phusis* of creation. All of human nature too becomes human resource, now thought differently than the management of human being for production. Indeed, the human will sees its own material being as raw material for the production of the posthuman, giving new meaning to human resources.

V. THE ETHICS AND POLITICS OF TECHNO-LOGIC

For the most part, a contemporary understanding of technology is that is it mere efficient cause, a means to achieve some given end. According to the quasi-libertarian political slant of key transhumanist figures, ends are deliberated upon by individuals, means are deliberated upon by politics. On Heidegger's reading of technology, technology itself delimits what emerges ontologically from the way things *are* (thought to be) and what can emerge as the highest kind of being (end), that is to say, the Being that can order beings. That means technological enframing is already grounded in an ontotheology. As Heidegger notes, "[t]echnology is a way of revealing" (Heidegger, 1977, 12). As he points out in the *Question Concerning Technology*, the rise of contemporary science has itself already struck a technological attitude (Heidegger, 1977, 21–3). And this technological attitude, this enframing, I shall argue unfolds a political/ethical understanding as well. Human will to power takes on two forms: (1) the general or political will and (2) the individual will. I shall now show how the enframing not only circumscribes what can appear as resource but also circumscribes the way those things that appear can be treated, but only insofar as the post human end is not questioned.

In its second definition of transhumanism, Bostrom (2003)[10] notes that transhumanism is also about controlling technology. Transhumanists like Bostrom and philosophers, like Harris[11] (who rejects the moniker of transhumanist), realize the power that technology wields. Both articulate in very strong terms that, given the enormous power of technology, it should be regulated and controlled (Bostrom, 2003, 2005a; Harris, 2007, 123–42). The political control of technology exists to assure things like just distribution of its spoils and the proper use of the technology; that is to say, so long as control does not get in the way of the particular goal of particular humans to achieve their highest *telos* as that person understands it, ethical and political controls are a good thing. The problem, as Harris understands, is that science and technology are knowledge and all knowledge is of the general. In other words, knowledge is never gained through an *n* of 1.

To assure proper development and use of technology, Harris articulates two principles that should serve as boundaries for research and use of novel technologies. The first is a "do no harm" principle (Harris, 2007, 188–9) and the second is a Rawlsian fairness principle (Harris, 2007, 189–91). These two principles act as guiding principles that will both delimit and advance research on enhancement technologies. From here, Harris articulates a very powerful conclusion that if research and the subsequent use of technology can be bounded by these governing principles, one might be able to articulate a civic obligation to participate in research and that indeed Rawlian fairness itself might require it.[12] After all, knowledge requires large *n*s. Indeed, "the rights and interests of research subjects are just the rights and interests of persons and must be balanced against comparable rights and interests of other persons" (Harris, 2007, 194). After all, humans are notoriously bad at judging their own best interests and are often in need of a society, that is the political apparatus, to do so for them (Harris, 2007, 191–200).

Harris and Bostrom seem to part company; for Harris, the public good of our biotechnological future might dictate that the state can incentivize participation in research and we may in fact have good reason to promote research in a civilized society for the good of the many. However, Bostrom seems to think the great tragedy of our eugenic past was that society fostered evolutionary progress by technologically and politically intervening qua government, rather than allowing particular individuals to decide for themselves (Bostrom, 2005a, 206). Bostrom states:

History has shown the dangers in letting governments curtail these [morphologic and reproductive] freedoms. The last century's government-sponsored coercive eugenics programs, once favored by both the left and the right, have been thoroughly discredited. Because people are likely to differ profoundly in their attitudes towards human enhancement technologies, it is crucial that no single solution be imposed on everyone from above, but that individuals get to consult their own consciences as to what is right for themselves and their families. Information, public debate, and

education are the appropriate means by which to encourage others to make wise choices, not a global ban on a broad range of potentially beneficial medical and other enhancement options (Bostrom, 2005a, 206).

The ethically bad feature of our eugenic history is that these were government-imposed programs to enhance evolution by culling the unfit. Bostrom, however, neglects to take into account how cultural practices assist the citizenry in internalizing the ideologies of eugenics. The cultural practices deployed by protestant ministers to encourage the hygienic and fit family (Rosen, 2004; Hall, 2007) would surely qualify as information and public discussion of the benefits of designed selection.

So it seems that we are in need of better control, a better mechanism to assure progress. On the one hand, government incentivized participation in research might prevent our miserable interpretation of our self-interests to enhance evolution (Harris, 2007); yet on the other, government controlled enhancement may force upon us the unwanted enhancement of evolution, and its flip side of de-selection (Bostrom, 2005a).

Yet, I am not so concerned with the balancing of public and private goods; something deeper is covered over in such debates, and can be seen in both Harris and Bostrom. Each assumes that the only unpalatable feature of enhancing evolution is that the manifest destiny of human evolution might go unachieved. And this manifest destiny, this posthuman *telos*, this as yet unachieved posthuman dignity—whether articulated as a public or private good—is part of the enframing. Thus, it is very difficult to politically gain traction against the logic of enhancement because it frames the good in nebulous future goods that cannot be assessed except insofar as they are promissory notes, a promise of capitalization in the posthuman future.[13] After all, questioning all the good that technology promises makes one a bioconservative, or a religious fanatic, or a luddite. Critics are really just fear-mongers telling precautionary tales (Bostrom, 2005b).[14]

Thus, it seems that Bostrom and Harris are attempting to articulate both the political and the ethical dimensions that would make stronger the weak foundations of previous progressive philosophical positions of technological innovation. For each, we just need a better political philosophy or set of ethical principles to manage the risks that any great achievement of our posthuman destiny might produce, no doubt a noble task to which Bostrom and Harris are committed. The story goes something like this: we must now, in our enlightened age, articulate our principles of governance to achieve the end. This story claims that if we are just more politically and philosophically vigilant, we can prevent the complete politicization of life.

Thus, there is a belief in enhancement philosophies that the totalitarian political regimes that were wedded to particular biological ideologies in our past, for example Nazism or eugenics, arose because the philosophical defenses were too weak. This belief that trouble arises when one has not been

philosophically diligent is an illness toward which liberalism is prone, claims Jon Simons. The point that Simons makes with a question he asks is very telling: "[W]hat if the excesses of power in the twentieth century have occurred not because the philosophical defenses are too weak, but because they are embroiled in those excesses?" (Simons, 1995, 66). The biological achievement of the human brain—the human will—becomes also the individual or political power to order that biological material toward greater posthuman heights. In other words, what if the philosophical defenses proposed by transhumanists are already tied up with power ontology?; what if the power of delimiting knowledge through scientific and biotechnological deployment of that knowledge is always already tied up with the political regime within which it is born?; what if biotechnology is already a biopolitics because already caught up in our contemporary ontotheological metaphysics? (Dreyfus, 1992; Bishop, 2009); and what if transhumanism is already wedded to a power theology, a subtle theology of the *Übermensch*?

VI. POWER/KNOWLEDGE, POLITICS/SCIENCE

The tension between the individual and the political that we see within transhumanist philosophies is precisely the tension that philosophical liberalism historically tried to negotiate.[15] Yet, this tension is not merely a tension of how to separate politics from science. There is always a political directionality toward which the scientific question is asked; knowledge is for the purpose of relieving the human estate (Bacon, 2000, 60 and 221/Book I, aphorism LXXIII and Book II, Aphorism, LII). And the relief of the human estate is always already politically defined. In fact, the story of rise of science and technology is intimately tied to the story of the rise of liberalism in the West. The thinkers that would produce the new rational and empirical sciences were, after all, also the figures that produced the new political realities of the West. Francis Bacon was Lord Chancellor of the proto-Britain, and a political operative his entire life. Yet, we know him best as the father of the new empiricism (Bacon, 2000). Thomas Hobbes was a mathematician and geometrician; but, we know him best for his political opus magnum, *Leviathan* (Hobbes, 1991). John Locke was a medical doctor who thought of himself as a natural philosopher—a scientist of his day; yet we know him as the author of the *Two Treatises on Government*, which would become the foundation of the American experiment (Locke, 1960). As Bostrom is aware, he inherits these grand thinkers, and transforms them.

All three of these thinkers, as well as others, understood the relationship of the new science and its technological products to the new politics of Europe. They believed that freedom allowed knowledge to move forward and the fruits of that knowledge offered more opportunities for people to pursue liberty. There can be little doubt that, for the natural philosophers of the early-modern period, there was a certain democratic-ness about science. In

fact, the new empirical methods of the 17th and 18th centuries were thought to be democratic because multiple viewers would witness the experiments as they were done (Shapin and Schaffer, 1985, 336; Ezrahi, 1990, 67–127). Firstly, they believed that multiple people observing the phenomenon could generate a representative composite of the observations more accurate than any one idiosyncratic description—a proto-peer review process. Secondly, the democratic-ness of this process served as a kind of justification of the process (Ezrahi, 1990, 67–127). The fact of its democratic-ness justified it as a legitimate process of natural philosophical (scientific) enquiry.

As already noted, it is commonly held that science began and technology followed (Waters, 2006).[16] However, an examination of the work of Francis Bacon demonstrates the instrumentality of both scientific process and justification. The new science exists "to relieve the human estate" (Bacon, 2000, 20, 221/Book I, LXXIII, Book II, LII). It is the usefulness of information to bring effects in the world that already serves to morally, politically, and epistemologically justify the pursuit of knowledge in Bacon's new empirical science. How do we know that we know something? We know that we know something when we can manipulate the beings of the world through the deployment of knowledge. In fact, the definition of what counts as knowledge under patent law today is that something can be done with the information.

Thus, I would argue implicit in both the political and natural philosophies of the Enlightenment is the primacy of bringing effects into being, to control those entities for the good of humankind. Technological manipulation justifies ethically, politically, and scientifically. For many of the early-modern philosophers, effective control of the world for the good of humankind also meant political control, even while political control might have been invested in the individual. As noted, for Bostrom what makes our eugenic past so unpalatable was that governments, not individuals defined the *telos*. All that we need are procedural restraints and to assure that each individual has morphological and reproductive freedom (Bostrom, 2005a, 206). The Nuremberg Code enacts just such a vision.

Constraint takes three forms in the Nuremberg Code and subsequent declarations, in my opinion. For the science to be legitimate, it must first assure robust informed consent; second, it must be constrained by the standards of "good" science; and third, science must be done for the good of society. Yet, I do not see how the Nuremberg Code or other forms of procedural ethics really help that much in the promise of good science and good technology. First, if the Nazi scientists had gotten consent and could document that it was freely given, the research would have still been wrong, not because it violated the will of so many individuals; what is so appalling about Nazi experimentation was not the violation of autonomy, but the violation of the life and dignity of its subjects for the perceived greater dignity of some future Aryan race.

Second, many commentators believe that Nazi research could have been halted on the good science clause. Good science is science that is

methodologically precise and methodologically appropriate to the question asked and the objects investigated. The story goes something like this: There is good science, with its own intrinsic criteria; there is good politics, with a different set of intrinsic criteria. Bad politics can come to affect good science, and bad science often accompanies bad politics. It is never the case that science and technology are already political. For Bostrom, Nazi science and British and American eugenics movements are instances of bad politics meeting bad science (Bostrom, 2005b, 203, 206). Bostrom's reading of this is not new. Leo Alexander, the American medical doctor and observer of the Nuremberg trials, writes in his 1949 *New England Journal of Medicine* article that the Third Reich made "medical science into an instrument of political power—a formidable, essential tool in the complete and effective manipulation of totalitarian control" (Alexander, 1949). Thus, the story goes that, with the Third Reich, bad politics skewed the political neutrality of good science. Thus, bad government produces bad science.

Still, we sometimes quickly dismiss the Nazi experiments as bad science methodologically speaking, and concluding that it was all about torture and control. This viewpoint begs the question that if it were methodologically sound science, would the Nazi human experiments have been somehow more acceptable? Of course our answer is still no. After all, even while the Allied Forces in post-war Europe were articulating the Nuremberg Code and trying Nazi doctors and scientists for crimes against humanity, these same nations were actively exposing their own citizens to numerous questionable experiments, for example Willowbrook and Tuskegee. And these experiments were methodologically robust. These experiments persisted in Britain and the United States well into the 1960s, some 20–30 years after the Nazi trials, and the articulation of the Nuremberg code. What is clear is that perhaps we have all along been dealing not with bioscience or biomedicine gone awry due to bad politics, but perhaps we have seen and are seeing instead the inevitable relationship between politics and science/technology, and that precisely because of the metaphysics of technology.

The third form of proceduralist ethical constraint in scientific research set out by the Nuremberg Code is that science must be done for the good of society. Whether we like it or not, Nazi society was able to convince the majority of people that its political regime and the deployment of its research agendas were for the good of society. And the scariest part about this is that British subjects and US citizens might have agreed with them in the 1930s. Eugenic philosophy was internalized by those individuals who looked the other way as human beings became the raw material, a human resource for a perceived greater human future.

Although the means of conducting research is certainly important, the problem with Nazi research was that the good of society, the relief of the human estate—the *telos* of technology, the political will of society—could not be questioned. Nazi science was an attempt at science; it was not just

science being co-opted by bad politics. It was science, and thus it was political because all science is about controlling not only the experiment itself but also the world more efficiently by knowing which variables to manipulate toward something perceived as the greater good. So the problem with Nazism, as Giorgio Agamben has pointed out, is that it was extremely effective at the Enlightenment project of efficient control and about bringing those perceived goods into effect (Agamben, 1998). The whole stance of Nazi technological society is a stance that is already politicized. It was so politicized that the question was not should we proceed for the betterment of society, but that society itself was perceived as a reservoir into which science could tap. A certain segment of the population was understood as detrimental to the political life of Germany, and these lives were nothing more than mere life, mere resource of power.

VII. NEW TRANSCENDENCE OR OLD TRANSGRESSION?

A few weeks ago, I was part of a panel discussion at Vanderbilt University in which the discussion turned to the concept of nature. I opined that it is a word that has lost its meaning such that we can no longer speak of nature. All that *is*, is artifice of the chaotic creative forces of becoming—ontology; we simply apply a greater force to order the chaos—theology. Thus, I said it is difficult for us in our time to say what is natural. One of my colleagues noted, however, that the inverse was true; all is natural. Indeed, he is also correct. On the belief system of the transhumanists and their philosophical and scientific apologists, the stance that nothing is natural is the same as saying everything is natural. All is eternal becoming whether by means of chaotic and creative evolutionary force—ontological power—or by the ordering forces of human will. All that *is*, is natural, natural resource, raw material for the ordering force of the human will, the posthuman god.

   The proponents of transhumanism wish to acknowledge that they desire nothing different than what religious traditions have sought for millennia, namely to transcend human limitation, to commune with the gods. The story goes that they are, like so many people before them, embracing the fact of eternal becoming and moving toward a new kind of transcendence, one not animated by gods, and myths, and fables. Yet most religions also demarcate a line that humans must not transgress or move across. Once we understand beings as the concatenations of forces in our contemporary ontology, one does not transgress, but only transcends human frailty. Yet, the turning of power in the human will to direct these creative evolutionary forces is the theological grounding of our *epoch* . The greater power of the ordering force must be brought to bear on the chaotic forces. Transitional beings are really directed at some other higher good, whether one's own self-aggrandizement or that of a political power. Bodies, humans are transitory things ordered by

a human will with a greater *telos*; and like all transitory things, these things will become materials to achieve that goal. If nothing else, our history has taught us that.

Michel Foucault designates this relationship between bodies and politics (and the circulation of power within these two realms) a biopolitics. By biopolitics, Foucault means something akin to power biology (Richardson, 2004, 12–13). As Hubert Dreyfus notes, Foucault uses the term biopolitics in a way similar to Heidegger's use of technology (Dreyfus, 1992, 81–2). We find in Western discourses on enhancement a rather naïve discussion about the nature of enhancement in a free society. Bostrom, who would elevate the individual as somehow separate from the social and political, as well as above the historical conditions of her possibility, seems to not understand that cultural forces are internalized and as such animate and assist in the ordering of the posthuman. The univocity of Being for our time is that power circulates. As socially (and materially) constituted beings, we are molded and shape to enact the social and political will of our culture. Political will then becomes our individual will. Thus, Bostrom's understanding of the individual will is a bit off. The individual will is produced more subtly than the crass and overt political coercion of totalitarian forces. Bostrom is also a product of a history, one which elevates the human will, one that seems to direct its power against the material conditions of its own possibility. The powerful creative forces of our ontology are married to the powerful, and subtle, forces ordered by social/political will. Power ontology becomes power theology.

Once again, our conversation in politics, along with its sciences and technologies, tends to circle around the "'bodily' mediation between the unlimited sovereignty of the State and the self-will of the individual" (Milbank, 2006, 103). Yet, I have tried to show that in our epoch, biotechnology and biopolitics go hand in hand, subtly molding and shaping the *telos* of our desires. I have argued that the contemporary metaphysics, another ontotheology, is one of the circulation of power. In evolutionary theory, the creative and chaotic forces of evolution throws up beings; that power ontology achieves a new status in the human will, which then turns to order the chaos. Power is the univocal expression of beings and Being, of becoming and return of power to itself. Power circulates both biologically and politically; power is directed toward some sort of political future made possible through the creative powers of ontology/biology. The harsh power of political force gives way to the more subtle power of internalized social force in the myth of the individual.

It is here, in my opinion, the ontotheology of transhumanism does not easily permit itself to be open to deep questioning about what counts as desirable in our posthuman future. To question the posthuman future is to question evolution and scientifically grounded ontology; to question the posthuman future is to question our liberty to become what we will. To

question the posthuman future is to question all the good that has been pro-
duced from the Enlightenment, liberalism, and indeed humanism. After all,
who can be against relieving the human estate? One becomes ridiculous, a
luddite when questioning enhancement. To question the posthuman future
is to be ridiculous, to be a bioconservative (Bostrom, 2005a), a priest or sage
pedaling in fear, telling precautionary tales, according to Bostrom (2005b).
To question the posthuman future is to question the theological grounding
of transhumanism; to question the posthuman future is to question the post
human god, a contemporary sacrilege.

NOTES

1. It should be noted that Bostrom (2005a) acknowledges that he hopes to avoid caricature of
those like Kass and Fukuyama, but then he caricatures his detractors in a fable (2005b).

2. It should be noted that when Thompson quotes these passages, he has changed the translation
offered by Stambaugh, such that he replaces "beings" with the word "entities" (Heidegger, 1969,
70/139).

3. Here Thompson is providing his own interpretation of *Identitat und Differenz* (Heidegger, 1969
, 139). Again, Thompson translates *Seienden* as "entities," where Stambaugh translates it as "beings"
(Heidegger, 1969, 70–1).

4. I borrow these terms from Richardson (2004, 12–13).

5. Richardson's (2004, 11–65) thesis is that Nietzsche, in his critiques of Darwin, was only trying to
distance himself from Darwinian naturalism in order to make clear corrections to the few problem that
he found in Darwin.

6. Thus, genealogy is needed to dig out the nonconcious creative force from the historically
constituted telei of conscious power.

7. Thompson has here synthesizes the thinking from several of Heidegger's later works
(Heidegger, 1961b, 64; Heidegger, 1969, 66/134).

8. Harris' italics.

9. Thompson here is summarizing Heidegger essay on the differences between technological
language and traditional language (Heidegger, 1989, 1998).

10. It should be noted that Bostrom is listed as the main author for this document put out by the
World Transhumanist Association. It appears to be consensus answers to the Transhumanist FAQ
document.

11. Although John Harris rejects the moniker "transhumanist," his overall philosophical stance
appears indistinguishable from those, like Bostrom, who embraces the term (Harris, 2007, 38–9).

12. Harris is quick to note that he is not arguing that we are at the point where such an obligation
exists, but that in principle one could justify it. Whereas Harris is by no means calls for a kind of con-
scription, others, like Rosamond Rhodes, have been more bold in calling for participation in research as
part of the common good bequeathed to us by politically controlled institutions like the National Insti-
tutes of Health (Rhodes, 2005). Rhodes makes a similar argument, but one grounded on concern for
vulnerable populations. She claims that vulnerable populations are in need of research, but that the entire
research apparatus in its desire to protect vulnerable populations has resulted in harm to those very same
populations.

13. Nick Agar makes a very similar point in a response to Bostrom's claims about the good that the
posthuman might engender.

14. It is indeed ironic that Nick Bostrom uses a precautionary tale to show how bioconservatives are
merely telling precautionary and false tales about dragons (Bostrom, 2005b).

15. I am of course referring to the essays by Foucault in *Power/knowledge: Selected interviews and
other writings 1972 – 1977* (pp. 1–36), ed. C. Gordon. New York: Pantheon Books.

16. I am sympathetic to Waters' narration of how we move from human to posthuman; however, I
disagree with his understanding of the rise of modern science and technology.

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